

WHAT IS CLAIMED IS:

1. A static-fluid-pressure-driven rotary motor for converting fluid pressure at an inlet into a mechanical rotary output, the motor comprising:

- (a) a casing defining a chamber having a fluid inlet and a fluid outlet;
and
- (b) at least one rotor assembly rotatably mounted within said casing, said rotor assembly including:
 - (i) a rotor mounted so as to be rotatable about an axis of rotation;
 - (ii) a plurality of barrier elements associated with, and extending outwards from, said rotor, each of said barrier elements having an outer edge configured for passing in proximity to a facing wall of said casing chamber; and
 - (iii) a resilient seal associated with at least said outer edge of each of said barrier elements, said resilient seal being configured to form a sliding seal between said outer edge and said facing wall while accommodating variations in clearance between said outer edge and said facing wall.

2. The motor of claim 1 implemented as a gear motor, wherein said at least one rotor assembly is implemented as a pair of said rotor assemblies, and wherein said barrier elements are implemented as gear teeth, said pair of rotor assemblies being mounted with said axes of rotation parallel such that said gear teeth intermesh.

3. The motor of claim 1 implemented as a vane motor, wherein said at least one rotor assembly is mounted with said axis of rotation eccentrically located with respect to said casing, and wherein each of said barrier elements is implemented as a vane radially displaceable relative to said axis of rotation.

4. The motor of claim 3, wherein said vanes are radially displaceable within slots formed in said rotor, the rotor assembly further including at least one resilient vane-slot seal deployed to form a sliding seal between each of said vanes and facing surfaces of a corresponding one of said slots.

5. The motor of claim 3, wherein said casing is formed with a guide track and wherein each of said vanes is provided with track-engaging features for engagement with said guide track, said guide track being deployed so as to maintain a predefined spacing between each of said vanes and said facing wall of said housing during rotation of said rotor assembly.

6. The motor of claim 5, wherein said guide track is implemented as a channel formed in an axial end wall of said casing, and wherein said track-engaging features are implemented as a slider block projecting axially from each of said vanes for sliding engagement within said guide channel.

7. The motor of claim 1, wherein said resilient seal includes an elastomeric seal element deployed so as to contact said facing wall of said housing during operation of the motor.

8. The motor of claim 7, wherein said outer edge of each of said barrier elements includes an outward facing slot, and wherein each of said elastomeric seal elements is deployed at least partially within a corresponding one of said outward facing slots.

9. The motor of claim 7, wherein said elastomeric seal element is formed with a substantially circular cross-sectional shape.

10. The motor of claim 7, wherein said elastomeric seal element is formed with a pair of diverging tapered blades for sliding against said facing wall of said casing.

11. The motor of claim 1, wherein said resilient seal is a pressure-responsive seal configured such that a fluid pressure differential applied between opposite sides of said barrier enhances a sealing effect of said seal.

12. The motor of claim 1, wherein said resilient seal includes a substantially rigid contact element deployed so as to contact said facing wall of said housing during operation of the motor, said substantially rigid contact element being resiliently mounted relative to the corresponding one of said barrier elements.

13. The motor of claim 12, wherein said contact element is supported by a spring deployed so as to bias said contact element towards said facing wall of said casing.

14. The motor of claim 12, wherein said contact element is supported by elastomeric material deployed so as to bias said contact element towards said facing wall of said casing.

15. The motor of claim 12, wherein said contact element is integrally formed with said barrier element, said contact element being interconnected with said barrier element through an integral hinge.

16. The motor of claim 1, wherein each of said barrier elements has upper and lower edges, and wherein said rotor assembly further includes upper and lower seal elements associated with said upper and lower edges and

forming a sliding seal between said barrier elements and upper and lower surfaces, respectively, of said chamber.

17. The motor of claim 16, wherein said upper and lower seal elements are contiguous with said resilient seals.

18. The motor of claim 16, wherein said upper and lower seal elements extend substantially radially relative to said axis of rotation.

19. The motor of claim 1, wherein said rotor assembly further includes a rotor seal arrangement substantially circumscribing said axis of rotation and deployed for sealing between ends of said rotor and upper and lower surfaces of said chamber.

20. The motor of claim 1, further comprising a floating seal plate overlying an end of said rotor assembly and biased against said rotor assembly by at least one biasing arrangement such that said floating seal plate seals against said rotor assembly.

21. The motor of claim 1, further comprising a connector configuration associated with the fluid inlet of the motor and adapted for interconnection with a standard domestic water supply connector.

22. The motor of claim 1, wherein said casing is formed primarily from plastic material.